

IN THE CLAIMS

Please replace the current claims of record with the claim set as listed below:

134. (Currently Amended): A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as an active principle a recombinant protein whose polypeptide sequence comprises:

a) a 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium* parasite that is infectious in man, other than *Plasmodium vivax*; which induces an immune response and which can inhibit parasitemia *in vivo* in a host infected with said *Plasmodium* parasite; wherein said C-terminal fragment remains anchored via a glycosylphosphatidylinositol group to the surface of said *Plasmodium* parasite at an end of its penetration phase into human erythrocytes during an infectious cycle and wherein said recombinant protein comprises conformational epitopes, which are contained in two epidermal growth factor regions and is unstable in a reducing agent, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annexes I or III; and NMR fingerprints of Figures 12.0a to 12.0c or 12.2a to 12.2c ; and

b) alum,

wherein said vaccinating composition induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

Claims 135-138: (Canceled).

139. (Previously Presented): The vaccinating composition of Claim 134, wherein said recombinant protein further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide containing less than 50 amino acids of a C-terminal end of p33 of a MSP-1 protein of a *Plasmodium* parasite.

140. (Previously Presented): The vaccinating composition of Claim 139, wherein said C-terminal end of p33 is obtained from a cleavage of p42 of a same MSP-1 protein of a *Plasmodium* parasite.

141. (Previously Presented): The vaccinating composition of Claim 139, wherein said polypeptide contains less than 35 amino acids.

142. (Previously Presented): The vaccinating composition of Claim 140, wherein said C-terminal end of p33 is that end that is conserved in *P. falciparum*.

Claims 143- 144: (Canceled).

145. (Currently Amended): A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as a active principle a recombinant protein whose polypeptide sequence comprises:

a) 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium cynomolgi* parasite that is infectious in man, and wherein said recombinant protein comprises conformational epitopes, which are contained in two epidermal growth factor regions and is unstable in a reducing agent; and

b) alum,

wherein said vaccinating composition induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

Claims 146-147: (Canceled).

148. (Previously Presented): The vaccinating composition of Claim 134, wherein said recombinant protein is conjugated to a carrier molecule.

149. (Previously Presented): The vaccinating composition of Claim 145, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein I of the merozoite form (MSP-1 protein) has the atomic coordinates in Annex I; and the NMR fingerprints of Figures 12.0a to 12.0c.

150. (Currently Amended): The vaccinating composition of Claim ~~145~~ 143, which is hydrosoluble.

151. (Currently Amended): A recombinant protein whose polypeptide sequence comprises:

a) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met₁ to Asp₃₂; and

b) a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium falciparum* consisting of an amino acid sequence from Asn at amino acid position 3 to Ser at amino acid position 95 of SEQ ID NO: 1 which fragment induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

152. (Currently Amended): A recombinant protein whose polypeptide sequence comprises:

- a) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met₁ to Asp₃₂; and
- b) a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium falciparum* consisting of an amino acid sequence from Asn at amino acid position 3 to Ile at amino acid position 116 of SEQ ID NO: 4 which fragment induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

153. (Currently Amended): A recombinant protein whose polypeptide sequence consists of:

- a) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met₁ to Asp₃₂; and
- b) a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium cynomolgi* consisting of an amino acid sequence from Lys₂₇₆ to Ser₃₈₀ as shown in SEQ ID NO: 11 which fragment induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite, and wherein the fragment has atomic coordinates in AnnexI; and NMR fingerprints of Figures 12.0 a to 12.0c.

154. (Previously Presented): The recombinant protein of Claim 151, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1

protein) has atomic coordinates in Annex III; and NMR fingerprints of Figures 12.2a to 12.2c.

155. (Previously Presented): The recombinant protein of Claim 152, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex III; and NMR fingerprints of Figures 12.2a to 12.2c.

Claim 156: (Canceled).

157. (Previously Presented): The recombinant protein of Claim 151, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide containing less than 50 amino acids of a C-terminal end of p33 from a MSP-1 protein of a *Plasmodium* parasite.

158. (Previously Presented): The recombinant protein of Claim 152, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide containing less than 50 amino acids of a C-terminal end of p33 from a MSP-1 protein of a *Plasmodium* parasite.

Claim 159: (Canceled).

160. (Previously Presented): The recombinant protein of Claim 157, wherein said C-terminal end of p33 is obtained from a cleavage of p42 of a same MSP-1 protein of a *Plasmodium* parasite.

161. (Previously Presented): The recombinant protein of Claim 158, wherein said C-terminal end of p33 from a cleavage of p42 of a same MSP-1 protein of a *Plasmodium* parasite.

Claim 162: (Canceled).

163. (Previously Presented): The recombinant protein of Claim 157, wherein said polypeptide contains less than 35 amino acid residues.

164. (Previously Presented): The recombinant protein of Claim 158, wherein said polypeptide contains less than 35 amino acid residues.

Claim 165: (Canceled).

166. (Previously Presented): The recombinant protein of Claim 152, wherein said 19 kilodalton C-terminal fragment remains anchored to the surface of said *Plasmodium* parasite via a glycosylphosphatidylinositol group.

167. (Previously Presented): An oligomer of the recombinant protein of Claim 151.

168. (Previously Presented): An oligomer of the recombinant protein of Claim 152.

169. (Previously Presented): An oligomer of the recombinant protein of Claim 153.

170. (Previously Presented): The oligomer of Claim 167, wherein said oligomer comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

171. (Previously Presented): The oligomer of Claim 168, wherein said oligomer comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

172. (Previously Presented): The oligomer of Claim 169, wherein said oligomer comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

173. (Previously Presented): The recombinant protein of Claim 151, which is conjugated to a carrier molecule.

174. (Previously Presented): The recombinant protein of Claim 152, which is conjugated to a carrier molecule.

175. (Previously Presented): The recombinant protein of Claim 153, which is conjugated to a carrier molecule.

176. (Currently Amended): A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as an active principle a recombinant protein whose polypeptide sequence comprises:

a) 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium* parasite that is infectious in man, other than *Plasmodium vivax*; which induces an immune response and which can inhibit parasitemia *in vivo* in a host infected with said *Plasmodium* parasite; wherein said C-terminal fragment

remains anchored to the surface of said *Plasmodium* parasite at an end of its penetration phase into human erythrocytes during an infectious cycle, wherein said recombinant protein comprises conformational epitopes, which are contained in two epidermal growth factor regions and is unstable in a reducing agent and further comprises upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide containing less than 50 amino acids of a C-terminal end of p33 of a MSP-1 protein of a *Plasmodium* parasite; and

b) alum₃

wherein said vaccinating composition induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

177. (Currently Amended) A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as an active principle an oligomer of a recombinant protein whose polypeptide sequence comprises:

a) a 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium* parasite that is infectious in man, other than *Plasmodium vivax*; which induces an immune response and which can inhibit parasitemia *in vivo* in a host infected with said *Plasmodium* parasite; wherein said C-terminal fragment remains anchored to the surface of said *Plasmodium* parasite at an end of its penetration phase into human erythrocytes during an infectious cycle and wherein said recombinant protein comprises conformational epitopes, which are contained in two epidermal growth factor regions and is unstable in a reducing agent, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annexes I or III; and NMR fingerprints of Figures 12.0a to 12.0c or 12.2a to 12.2c ; and

b) alum₃

Application No. 09/134,333

Reply to Office Action of May 30, 2008

wherein said vaccinating composition induces an immune response which can inhibit
parasetemia *in vivo* in a host infected with a *Plasmodium* parasite.